

Skylight polarization measurements made at Washington on six days give a mean of 52 per cent, with a maximum of 58 per cent on the 11th and 12th. A higher maximum would undoubtedly have been obtained had not the ground been covered with snow on the morning of the 10th.

TABLE 2.—Vapor pressure at pyrheliometric stations on days when solar radiation intensities were measured.

Washington, D. C.			Madison, Wis.			Lincoln, Nebr.			Santa Fe, N. Mex.		
Date.	8 a. m.	8 p. m.	Date.	8 a. m.	8 p. m.	Date.	8 a. m.	8 p. m.	Date.	8 a. m.	8 p. m.
1916.	<i>Mm.</i>	<i>Mm.</i>	1916.	<i>Mm.</i>	<i>Mm.</i>	1916.	<i>Mm.</i>	<i>Mm.</i>	1916.	<i>Mm.</i>	<i>Mm.</i>
Apr. 5	6.02	4.95	Apr. 1	4.57	4.95	Apr. 1	3.99	3.81	Apr. 1	2.57	3.63
7	3.15	3.99	6	1.78	2.57	9	2.74	3.99	7	1.88	1.52
10	3.63	3.99	9	2.06	2.06	10	4.57	5.56	8	2.49	2.62
11	4.75	5.56	10	3.81	5.56	11	6.50	7.04	13	3.45	3.81
12	5.36	4.95	11	6.27	3.15	12	11.81	5.16	13	3.63	3.45
15	3.81	3.99	14	4.37	3.81	16	7.04	4.17	20	2.36	1.52
18	3.63	3.81	17	3.81	3.00	19	10.21	9.47	21	2.26	3.30
19	4.17	3.99	27	4.17	4.57	21	5.16	5.56			
20	6.27	8.48	28	5.56	6.50	23	6.27	5.79			
24	5.56	6.27				24	6.02	3.63			
26	6.02	8.48				28	5.36	5.16			
29	7.87	6.76									
30	6.76	6.76									

In Table 3 are included for the first time the daily totals of radiation for Madison, Wis., and Lincoln, Nebr., as measured by a Callendar pyrheliometer. The measurements made at Madison during the five years ending with March 31, 1916, will be found summarized on pages 180 to 181 of this number of the REVIEW. The daily means for Madison from which the daily departures are computed include the measurements for the current month, and are therefore 6-year means.

The Callendar register was installed at the State university farm, Lincoln, Nebr., on June 30, 1915; therefore, daily means for Lincoln are not yet available. The receiver, No. 9861, is exposed on a small platform about 6 feet above the ridgepole of the experiment station building, 65 feet above the ground, and 1,250 feet, or 381 meters, above sea level. There are practically no obstructions between it and the sky in any direction down to the true horizon.

The receiver was first compared with a Marvin pyrheliometer at Mount Weather, Va., in 1913.² After its installation at Lincoln it was further compared with the Marvin pyrheliometer at that station. Care is also exercised to keep the instrument oriented so that the edges of the mica plates supporting the resistance grids are either at right angles to or in the same vertical plane

of the platinum wires constituting the bright resistance grid⁴; so that for different degrees of cloudiness the value in heat units of the 0.1 inch ruled spaces on the record sheet is as shown below (Table 4.)

As shown by Table 3, the total radiation averaged below normal during the first and third decades of April at Washington, and during the second and third decades at Madison. At Lincoln it averaged below the Madison normals during the second and third decades, although generally, during the time the register has been in operation there, the decade means have been higher than the Madison normals.

At Washington the deficiency in radiation for the month was 9.7 per cent of the normal radiation for April,

TABLE 3.—Daily totals and departures of solar and sky radiation during April, 1916.

(Gram-calories per square centimeter of horizontal surface.)

Day of month.	Daily totals.			Departures from normal.		Excess or deficiency since first of month.	
	Washington.	Madison.	Lincoln.	Washington.	Madison.	Washington.	Madison.
1916.	<i>Gr.-cal.</i>	<i>Gr.-cal.</i>	<i>Gr.-cal.</i>	<i>Gr.-cal.</i>	<i>Gr.-cal.</i>	<i>Gr.-cal.</i>	<i>Gr.-cal.</i>
Apr. 1.....	502	575	596	120	191	120	191
2.....	292	567	408	— 92	180	28	371
3.....	108	422	170	—278	33	— 250	404
4.....	120	426	501	—268	34	— 518	438
5.....	417	518	520	27	125	— 491	563
6.....	304	639	309	— 89	242	— 580	805
7.....	465	261	238	70	—138	— 510	667
8.....	78	589	375	—320	187	— 830	854
9.....	260	631	558	—141	227	— 971	1,081
10.....	571	552	514	168	145	— 803	1,226
11.....	554	498	594	148	88	— 655	1,314
12.....	575	220	559	166	—192	— 489	1,122
13.....	342	338	179	— 70	— 77	— 559	1,045
14.....	313	634	520	—102	217	— 661	1,262
15.....	608	430	111	185	10	— 476	1,272
16.....	557	215	504	135	—207	— 341	1,065
17.....	323	682	307	—104	257	— 445	1,322
18.....	578	310	363	147	—117	— 298	1,205
19.....	541	310	384	105	—120	— 193	1,085
20.....	529	374	76	89	— 58	— 104	1,027
Decade departure.....						699	—199
21.....	450	109	701	5	—326	— 99	701
22.....	290	187	656	—159	—250	— 258	451
23.....	158	309	362	—296	—131	— 554	320
24.....	424	560	676	— 34	118	— 588	438
25.....	82	345	416	—380	—100	— 968	338
26.....	442	160	207	— 23	—287	— 991	51
27.....	378	687	360	— 90	239	—1,081	290
28.....	274	687	663	—197	237	—1,278	527
29.....	341	435	98	—133	— 16	—1,411	511
30.....	649	76	179	172	—377	—1,239	134
Decade departure.....						—1,135	—893
Deficiency since first of year.....						3,486	475
first of year... (per cent.)						9.6	1.4

TABLE 4.

Cloudiness (0—10).....	0	1	2	3	4	5	6	7	8	9	10
	Gram-calories per minute per square centimeter.										
Equivalent of 0.1 inch on record sheet.....	0.0275	0.0275	0.0274	0.0273	0.0273	0.0272	0.0271	0.0271	0.0270	0.0270	0.0270

as the incident solar rays, so as to reduce to a minimum the effect of internal reflection from the glass cover of the receiver.³ Under these conditions the value of a tenth of an inch on the record sheet, expressed in heat units, has been found to be 0.0270 gram-calory per minute per square centimeter, regardless of the zenith distance of the sun. This is practically the same value as was found at Mount Weather with the sun not more than 45° from the zenith. A correction has been applied to this value for blue-sky effect on account of the selective reflection

and since the first of the year the deficiency has been 9.6 per cent. Madison shows an excess for the month of about 1.1 per cent and a deficiency since the first of the year of about 1.4 per cent, or departures from the normal that are quite insignificant.

CORRECTION.

In the REVIEW for March, 1916, 44:113, Table 2, in the headings in place of *Mm.* insert *Cm.*

² See the REVIEW for August, 1914, 42: 478.
³ See the REVIEW for June, 1915, 43: 264-266.

⁴ See the REVIEW for August, 1914, 42: 476-480.